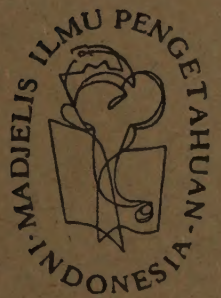
MADJELIS ILMU PENGETAHUAN INDONESIA
(COUNCIL FOR SCIENCES OF INDONESIA)

INDONESIAN ABSTRACTS

ABSTRACTS ON CURRENT SCIENTIFIC
INDONESIAN LITERATURE



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INDONESIAN ABSTRACTS

Abstracts on current scientific Indonesian literature.

VOL. II. OCTOBER 1960 NUMBER 4.

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0 GENERALITIES

008 CIVILIZATION. CULTURE.

008 (910) (02)

PRIJOHUTOMO.

Irama dalam lapangan kebudajaan Indonesia ditindjau dari sudut ethnologi dan sedjarah (A theme in the field of Indonesian culture considered ethnologically and historically).

The theme treated is the belief in ancestor spirits and their worship in a variety of manifestations. Ancestor worship in Indonesia lived on century after century, withstanding all alien cultural influences, although its manifestations in their outward form were strongly marked by Hindu- and Islam influences. This short monograph is entirely based on literary sources.

3 SOCIAL SCIENCES

30 SOCIOLOGY. SOCIOGRAPHY.

301.18 (910)

JASPAN, M. A.

Social stratification and social mobility in Indonesia. Jogjakarta 1959 (A trend report and annotated bibliography) 76 pp.

After a short and critical review of the work done in the sociological field before the revolution, the author proceeds to describe briefly the sociological activities of the post-revolutionary period and to summarize their results, especially in the field of social stratification and -mobility. According to the author a tendency to increase concentration of landownership is discernable in the traditional stratum of landholding peasants (kuli kentjeng) in the villages. This "kuli kentjeng" group has tended to merge with the "bekel" or traditional village headman group, and to some extent with the rural "prijaji" or literati of the feudal court sphere in Javanese village life. Although there is emerging a new elite or academic title-holders, the traditional feudal elites, especially in the outer islands not directly touched by the revolution, have not yet been replaced. Racial, ethnic and regional mobility since the colonial days has also been considerable. The report is interesting but of a very preliminary character. The greater half of the booklet consists of a bibliography on recent publications (mainly since the 2nd world war) in the field of social stratification and -mobility in Indonesia.

33 POLITICAL ECONOMY.

331 : 8-95

JASPAN, M. A.

A critique of Durkheim's „The Division of Labour in Society" in Padjadjaran 1 (4) : 120-136, 1959.

Durkheim's theory about the causes and effects of division of labour in society and his related views about mechanical and organic social solidarity are critizised in this review article, mainly because of their influence on modern Western sociology. This influence, according to the author, nuises the development of "a genuine and socially useful science of society". The author's main argument against Durkheim is that his approach is metaphysical and at the same time deterministic, that he doesn't pay any attention to the importance of the relationships of production and that he only gives an idealistic (in the philosophical sense of the word) and sociocratic explanation of his basic concept of "collective conscience". This neglect to analyse dialectically the role of conflict, especially class conflict, change and progress in society, impairs seriously the Durkheimian theory of law and the state too.

34 LAW

343 (910)

HAN BING SIONG.

Aneka warna hukum pidana Indonesia (Berkenaan dengan diundangkannja Undang[2] No. 73, 1958) (Diversity in the Indonesian Criminal Law — On the occasion of the enactment of Act No. 73, 1958) in *Hukum* 5-6: 31-44 and 52-53, 1959 continued in *Hukum dan Masjarakat* 1 : 53-66, 1960.

This article reviews the statements of some authors who give the impression as though before September 29, 1958 there was only one criminal code in force in Indonesia. But in reality there were two criminal codes: the Wetboek van Strafrecht or Kitab Undang-undang Hukum Pidana based on Act No. 1, 1946 and binding in Java (minus Djakarta Raja), Madura and Sumatra (minus the territory of the former Negara Sumatra Timur), and the Wetboek van Strafrecht voor Indonesië in force in Djakarta Raja, Sumatra Timur, Kalimantan and Indonesia Timur. The Statements of some other authors are discussed to illustrate the existing confusion among the jurists. The article proceeds with the discussion of the objections against the dualism in the codified criminal law, i.e. the differences in the general principle of art. 71 and in the particular stipulations of the two codes, and the existence of a serious vacuum in Djakarta Raja, Sumatra Timur, Kalimantan and Indonesia Timur concerning the crimes against the security of the State and of the President, caused by the stipulation of intertemporal law of art. 192 of the Constitution of 1949. Some authors have tried to deny that vacuum either in general or only with regard to certain officials, but according to the authors of this article the soundness of their arguments must be doubted. The greatest objection against the dualism was the danger of confusion and, consequently, of judicial errors. That confusion is evident in the publication of codes

and statutes of the Ministry of Information, which in turn increases the danger of confusion and errors. And in some cases a judicial error has actually been committed. The Supreme Court, however, has not made those mistakes. On September 29, 1958 the legislature has at last endeavoured to end this unsatisfactory situation by declaring Act No 1, 1946 to be binding throughout Indonesia. Consequently, Act No. 1, 1946 has become binding in Djakarta Raja, Sumatra Timur, Kalimantan and Indonesia Timur. On September 29, 1958, so the Kitab Undang-undang Hukum Pidana has been substituted for the Wetboek van Strafrecht voor Indonesië in those areas. However, because of the rule of intertemporal law of art. 1 of the Kitab Undang-undang Hukum Pidana, the former diversity in the codified criminal law must still be paid attention to for acts committed before September 29, 1958 but tried afterwards. Art. 1 of Act. No. 1 1946 stipulates that the criminal laws binding at present are those of March 8, 1942. So, all criminal law stipulations promulgated after that date have been annulled in Djakarta Raja, Sumatra Timur, Kalimantan and Indonesia Timur on September 29, 1958. The legislature has erroneously assumed that Act No. 1 1946 merely deals with the codified criminal law. But it deals with the criminal law in general. The result of the legislature's endeavour to attain unity for the codified criminal law is thus diversity in the uncodified criminal law. The law concerning economic crimes, for instance, must be considered to be valid in Java (minus Djakarta Raja), Madura and Sumatra (minus Sumatra Timur) only. So the legal structure at present still needs the attention of the legislature, and those who have to apply the law must be on the alert if it concerns crimes committed in Djakarta Raja, Sumatra Timur, Kalimantan and Indonesia Timur.

38 TRADE. COMMERCE.

382.5 : 636.23 (922.24)

ATMADILAGA, D.

Pemasukan sapi perahan Red Danish kedalam sapi Madura, terutama mengenai daja tahan panasnja (Import of Red Danish cattle for crossing with the Madura cow, especially to improve heat resistancy) in *Hemera Zoa* 65 (11-12): 368-371, 1958.

A critical note on large scale import of Red Danish cattle in Indonesia, which failed because it had no sound base and it was started because of much advertisement of sellers of this cattle. The import of this cattle in Madura for cross-breeding was also a failure as the heat-resistancy factor was not taken into consideration. The author is of opinion that the chances of any positive result in cross-breeding are very low.

39 ETHNOGRAPHY. CUSTOM AND TRADITION. FOLKLORE.

392.5 922.2)

PANDAM GOERITNO.

Beberapa hasil penjelidikan tentang kehidupan perkawinan (Some results of research on marital life) in *Medan Ilmu Pengetahuan* 1 (3) : 230-244, 1960.

1) The high divorce rate in Indonesia is shown in Table 3 (column 5) to be compared with the divorce rate in other countries (Table 4, column 6). This instability of marriage is reflected in *kapanewon* Prambanan, an administrative unit within *Daerah Istimewa* Jogjakarta, covering ± 40 square kilometres with ± 28.000 inhabitants (Table 2, column 5).
2) Desa Marangan, a hamlet in *kapanewon* Prambanan was the subject of a sociographic research carried out in 1956 and 1957 by the writer. The data on marital life is dealt with in this paper as shown in Tables 1, 2 and 5-9. The income per capita in this hamlet is similar with the income per capita in Indonesia, which numbered Rp. 1220,— in 1956 Rp. 100,— ± U.S. $ 4 at the free-market).
3) The causes of the unstable marriages are the very low standard of living mentioned in no. 2, the low standard of education caused by colonialism and the social disorder since the war and the revolution thereafter. Divorce, which according to Mohammedan law can be acquired without any law suit might be also the cause.
4) The choice of marriage-partner appears to be an important factor. The divorce rate among couples who chose themselves their partner is about 50% of the divorce rate among couples who were married on the initiative of their parents; See Table 1: among the former, the number of marriages are shown in column 3 and the number of divorces in column 5. Among the latter, the numbers are shown in column 7 (marriages) and 9 (divorces).

398.2 (921)

TARIGAN, H. G.

Beberapa folklore dari Simelungan III — Tjeritera tiga orang bersaudara (Folklore of Simelungan III — The story of the three brothers) in *Bahasa dan Budaja* 7 (5) : 227-29, 1959.

The three brothers every day quarrel over their aunt's daughter. At the end they go away to another region and their aunt's daughter dies. There they obtain wonderful things. The eldest can see all the accidents in all the villages, the elder can revive the dead and the youngest can fly to everywhere. They go home and their aunt's daughter is revived, but they quarrel again. Finally their father takes her as his wife.

4 LINGUISTICS

41 PHILOLOGY.

411 : 499.2

SAMSURI.

Phonemic system of the Bahasa Indonesia and a proposed orthographic reform in *Medan Ilmu Pengetahuan* 1 (4): 323-341, 1960.

It is true that the problem of devising an acceptable spelling system is a language and culture problem, in which linguistic judgement has to be tempered by the consideration of cultural attitudes, tradition, and perhaps prejudices, but since in the present orthography of the Bahasa Indonesia none of these things are to be found, we might set up a somewhat different spelling system which is ideally aesthetic from the linguistic point of view and which might as well serve to start our cultural tradition and attitude. The proposed orthographic reform is based on the findings of the phonetic analysis of the Bahasa Indonesia plus some orthographic solution of morphemic and morphophonemic problems and the spelling of loan words, taking into consideration the practicability and linguistically validity of the points explained in the preliminary advice of Prijono for devising a new spelling system for the Bahasa Indonesia given at the Linguistic Congress in Medan in 1954. The Indonesian phonemic inventory comprising 8 vowel phonemes /i, e, ɛ, u, o, ɔ, a, ə/ and 19 consonant phonemes /p, t, c, k, ʔ, b, d, j, g, s, h, m, n, ñ, ŋ, l, r, w, y/, is used as a guide to the selection of the graphemes representing the sounds of the language.

5 NATURAL SCIENCES

54 CHEMISTRY.

541.459 : 637.1.004.4

SOERATNO, M. MANSJOER and J. J. ZEEHUISEN.

Pengaruh H_2O_2 sebagai pengawet air susu terhadap kuman[2] pathogen didalam air susu (H_2O_2 as a means for milk preservation) in *Hemera Zoa* 65 (9-10) : 300-311, 1958.

Experiments prove that H_2O_2 does not destroy pathogenic bacteria in milk, artificially contaminated with Baccillus Anthracis, Streptococcus faecalis, Salmonella typhimurium, Pasteurella boviseptica and B. dysenteriae Shiga-Kruse. Still H_2O_2 is considered a good preservative, although the milk is not disinfected; the latter does not matter as in Indonesia all milk is boiled before consumption. Cheese, produced from milk treated with H_2O_2 proved to be of satisfactory quality.

546.22 : 631.543

ZEEHUISEN, J. J, and M. WARDOJO.

A marginal note on nitrate utilization in plants in *Hemera Zoa* 65 (3-4) : 93-95, 1958.

A general account on the necessity of sulphur for plants to bind nitrates and the necessity for research in Indonesia, where the sulphur is washed out rapidly.

57 BIOLOGY.

574.6 : 632.7

SUTARDI MANGUNDOJO, R.G.

Penjelidikan mengenai penggerak polong Crotallaria juncea L. di Djawa (Investigation on pod borers of Crotallaria juncea L. in Java) in *Pemberitaan Balai Besar Penjelidikan Pertanian* no. 152, Thesis 1958.

Crotallaria juncea, originally imported from India as a fibre plant, has been subjected since 1912 in Bogor to experiments to prove its usefulness as green manure. Positive results were obtained, but difficulties arose in obtaining seed, in many parts of Java production of seed failed almost completely because of pod-damage by several kinds of borers. Injurious pests are caterpillars of Etiella zinchenella Tr., Utetheisa lotix Cram., Argina cribraria Cl., and Lampides boeticus L., of which the first is the worst (infestation between 13.2 and 67.9 percent of the pods). Utetheisa and Argina produce infestation of 4-13 percent, but this figure may be up to 50 percent under favourable conditions. Lampides is a minor pest (1.2-12.1 percent infestation). The morphology and biology of the different pod borers is given in detail. As the average life cycle is not more than 35 days and the development of the pod needs c. 68 days, at least two generations of the pests may be expected; selection to obtain Crotallaria which may escape infection, consequently has not much chance of success. Field sanitation is impossible, as there are too many hostplants of the pests. Biological control was tried out. The fungus Empusa grylli Tres, attached Argina and Utetheisa, but was only effective during long wet periods. A number of predators was found, of which Phanerothoma hendecasisella on Etiella was the most important, Telenomus procas on Argina and Utetheisa and Trichogramme minutum on Lampides. A relation was discovered between the egg frequency and the rainfall during the days prior to observation, the greatest effect being rains occurring 9 days before. Rains occurring 16 or more days before observation do not affect egg production of Etiella. A rain index (total rainfall in mm $\times$ number of rainy days) period expressed in number of days gives the relation as mentioned above. For Etiella this is 17 to 3 days prior observation. The relation between the population density

and the rain index is negative in index class 0-40 and 170-390, but positive in class 40-170, (demonstrated with graphs). The population is lowest, when the index is 40, which means that with an average daily rainfall of c. 3 cm the infestation should be low. Argina and Utetheisa infestations were very high in very dry weather and during a very wet period with heavy showers; the explanation given is the dessication of Telenomus; in heavy rains their development is likewise inhibited. Areas with least infestation are those with an average daily rainfall of about 3 mm (corresponding with a rain index of 40); an increase in rain may within a fortnight cause an increase in borers.

577.17 : 551.45 (922.1)

WARDOJO, M., J. J. ZEEHUISEN and **G. F. HAUSER.**

A preliminary note on the effect of trade elements on yield and phosphate uptake of grass on latosol of West Java in *Hemera Zoa* 65 (11-12) : 360-367, 1958.

The first experiment in Indonesia concerning the trace element effect on grass land was carried out by the Institute of Animal Husbandry, Bogor, on a typical latosol of West Java. In additional to the measurement of the production of dry plant material, also the phosphate uptake per plot was determined. The result showed that an application of magnesium sulphate in addition to the basic NPK fertilization had no effect on the production nor on the phosphate uptake of the grass. A mixture of the trace elements Mn, B, Zn, Cu, and Mo increased the dry matter production significantly by about 30%. The phosphate uptake was also significantly increased due to the effect of trace elements. This resulted in a better utilization of the phosphate fertilization, which was in this experiment 18.5 gr P_2O_5 per plot per month. From that amount the NPK check plots took up 57%. Omission of nitrogen applications in the last phase of the experiment resulted in a decline of production and phosphate uptake equally in trace element and check plots, indicating that the phosphate uptake in this soil was mainly governed by the nitrogen supply and the general growth rate of the grass.

58 BOTANY.

581.13

ZEEHUISEN, J. J.

Wasserpaltung und Assimilation in *Hemera Zoa* 65 (5-6) : 182-225, 1958.

Energetic calculations about the fissionprocess of water during assimilation allow the drawing of the following conclusions:

1. Light energy of about 41 and 68 Cal. (or about 50 Cal.) can be utilized in the assimilation process to reduce ionic Mg to Mg-metal.

Oxydation of Mg-metal by H_2O results in the formation of Mg $(OH)_2 + H_2 + 2 \times 40.3$ Cal. transformed into quanta of 38.88 and 42.88 Cal. (± 41 Cal.). Absorption of two quanta of 41 Cal. by O_2 allows the formation of 2 HOOH (3 H_2O) and 2 radicals of O: If transfer of 4 quanta of 41 Cal. to 6 Fe $(OH)_3$ takes place, the formation of 6 Fe $(OH)_2$ and $1\frac{1}{2}O_2$ is possible and the subsequent formation of Fe $(OH)_3$ and H_2 becomes possible.

2. Light energy of sufficient strength absorbed by ironferments reduces the ironoxyd present to Fe $(OH)_2$ add Fe-metal. The possibility of the formation of 2 HOOH (3 H_2O) from $O_2 + 8\ H_2O$ is also present by the absorption of wave-energy of 45.6 Cal.
3. Light energy taken up by Oscillatoria-algae coinciding with a maximum of the action spectrum of photosynthesis corresponds too with this value of 45.6 Cal. It can furtheron be shown that 45.6 Cal. are sufficient also to split H_2O_2 (3 H_2O) into H_2O_2 and 3 H_2O.
4. It is advantageous in this type of calculations to contemplate the O_2-molecule as the sole packet of energy and to treat the H_2-molecule as a catalyst releasing this energy by combining with O_2.
5. Oxydations running along the following steps have the advantage of largely conserving the combustion energy during transport and in the same time of dividing the energy into smaller pockets.
   Enzym-H + $O_2 \longrightarrow$ Enzym + HO = O (aqua);
   2 HO = O (aqua) + 3 $H_2O \longrightarrow$ HOOH (3 H_2O) + O_2;
   $O_2 + 8\ H_2O \longrightarrow$ 2 HOOH (3 H_2O).
6. The following energy equations seem to be of great importance in the assimilation process.
   $O_2 + 8\ H_2O + 45.6$ Cal. $\longrightarrow$ 2 HOOH (3 H_2O).
   HOOH (3 H_2O) + 45.6 Cal. $\longrightarrow H_2 + O_2 + 3\ H_2O$.
   Fe$(OH)_2$ + 68.28 Cal. $\longrightarrow$ Fe + ½ $O_2 + H_2O$.
   H_2O (liquid) + 68.3 Cal. $\longrightarrow H_2 + \frac{1}{2}\ O_2$/25°C.
   4 Fe$(OH)_3 + 2 \times 54.6$ Cal. $\longrightarrow$ 4 Fe$(OH)_2 + O_2 + 2\ H_2O$.
   2 Fe$(OH)_2$ + 2 $H_2O \times 68.3$ Cal. = 2 Fe$(OH)_2$, O, $H_2O + H_2$ + 54.6 Cal. (68.3 — 54.6 = 13.7).
   13.65 Cal. = Energy of ionisation at 20°C.
   3×13.65 Cal. = 40.95 Cal.
   4×13.65 Cal. = 54.6 Cal.
   5×13.65 Cal. = 68.25 Cal.
   11×13.65 Cal. = 150.15 Cal.
   Mg + $H_2O \longrightarrow$ Mg $(OH)_2 + 2 \times 40.3$ Cal. + H_2.
   $H_2 + \frac{1}{2}\ O_2 \longrightarrow H_2O$ + 68.3 Cal./25°C (liquid).
   Mg $(OH)_2 \longrightarrow$ heat of formation = 148.96 Cal.
   Mg = O $\longrightarrow$ heat of formation = 143.9 Cal.
   4×41 Cal. = 3×54.6 Cal. = 164 Cal.
   8 H_2O + 164 Cal. + 2 $O_2 \longrightarrow$ 2 (O:) + 2 HOOH (3 H_2O).
   Energy required to promote a certain reaction has been given the positive sign +.

581.13

ZEEHUISEN, J. J.

Ringschluss van Zuckern, Teil II in *Hemera Zoa* 65 (1-2) : 30-79, 1958.

The assimilation way describes the fixation of CO_2 from soil and air through the leaves. It has been shown in a preceding paper that arithmetically the assimilation-way, taking place within the chloroplast, could be made responsible for the synthesis of this chloroplast also. The presence of ascorbic acid in the chloroplast proves the occurence of a side reaction with urinic acid as an intermediate. In another preceding publication it has also been shown that this side reaction is sufficient to explain the differences in the actual distribution of labelled CO_2 in the newly formed glucose from that of the expected pattern. In the present paper the author shows that the assimilation way, modified by the uronic acid breakdown of hexose molecules, could be responsible for the direct transformation of pectines in the cellulosewall, surrounding the contents of the cell, into lignin. It is shown that the ligninmolecule must contain four phenylpropane units. Three phenolic groups of three phenolpropane units and three aliphatic OH-groups of the side-chain of the fourth phenylpropane unit, after elimination of 3 H_2O have formed oxygen bridges. (One or two of the resulting oxygen bridges can be replaced by nitrogen). The remaining three side chains can be connected by oxygen. The same building of oxygen bridges can take place between the phenolic OH-groups and explains some free and some methylated OH-groups. This structure explains satisfactorily all known fact. The lignin in this way is a closed system biochemistry synthesized through a direct and anaerobic transformation of the pectin polysaccharid. A modification of this transformation, results in the formation of epigallocatechingallat as a closed system. It is shown, however, that the transformation of the polysaccharide inulin in the roots under certain circumstances can result in the synthesis of rubber precursors. If the analysis carried out in this paper can be confirmed later with the aid of labelled CO_2 this would be a simplification of our ideas about the biochemistry of the plant cell. The enzymes of the assimilation-way are contained in the plastides and chromosomes of the plant. The transformations obtained with the aid of these enzymes are in every single case modified by the structure of the substrate which is attached.

59 ZOOLOGY

599.735.5

KOSASIH, R.

Observations on the structure of loose horns in a zebu cow in *Communication Veterinariae* 3 (2) : 107-119, 1959.

The processus cornualis consists of a cancellous bone and does not have the expanded recess of the frontal sinus, both contrasting with the normal one. Instead of the bony fusion of the ox cornu with the frontal bone, there is a dense connective tissue bridge, which makes the horn passively movable; it consists of tridimensionally arranged collagenous fibre bundles, partly showing tendinous structure; especially on the horn side, this tissue is rich in bload-vessels and shows cell-activity aimed partly at endochondral ossification. This is in accordance with Siegert's Rontgen photos. Histological sections indicate epiphysar development, especially because ossification processes are absent near the ox frontale. There is a smooth and resting area on the outer wall of the ox frontale and a reactive zone toward the base of the ox cornale. The horny sheath itself seems to be normal.

595.1 (083) : 599 + 598.2

TANDJUNG ADIWINATA, R.

Daftar tambahan tjatjing[2] jang berparasit pada hewan menjusui dan unggas di Indonesia (Supplementary list of parasitic worms in mammals and birds in Indonesia) in *Hemera Zoa* 65 (5-6) : 231-233, 1958.

Bibliographic enumeration of some parasites of hog, dog, panther, Java-ape, orang-utan, gibbon, rabbit, marmot, rat and fowl.

6 APPLIED SCIENCES

61 MEDICAL SCIENCES.

616.981.45 : 599.731

DJAENUDIN, R.

Penjelidikan tentang kuman Pasteurella dalam alat pernapasan pada babi jang sehat (Investigations on Pasteurella bacteria in the respiratory tracts of healthy pigs) in *Hemera Zoa* 65 (5-6) : 226-230, 1958.

The lungs of 125 examined hogs were negative; in larynx mucus of 50 hogs twice Pasteurella septica, which is pathogenous to rabbits, was isolated.

616-018.7 : 636.4

FISCHER, H.

Congenital epithelial defects in tamworth piglets in *Hemera Zoa* 65 (5-6) : 239-240, 1958.

Description of this defect, one photo.

619 (091) (910)

KRANEVELD, F. C.

Veterinaire varia van Indonesië 4, Een flits beeld over de geschiedenis der diergeneeskunde van Nederlands Oost Indië gedurende de periode 1820-1940 (Veterinary varia of Indonesia 4, A short survey of the story of veterinary science of the Netherlands East Indies during the period 1820-1940) in *Hemera Zoa* 65 (3-4) : 96-113, 1958.

In 1820 the first civil veterinarian arrived in Indonesia (Coppieters), who died already in 1822. The next suggestion to get a new officer was made in 1837, but as there was already a non-professional horse-docter in the army (Rath), the latter was promoted as the veterinarian. Up to 1851 the Veterinary Service was a job for the military horse-veterinarians (encompassing 5 men). In 1875 there were already 5 veterinarians. In 1861 an experiment was carried out to educate in East Java of 5 Indonesians. In 9 years this school delivered only 8 native veterinarians. The school was closed in 1875. In 1907 under pressure of Treub in Bogor a veterinary laboratorium was established, to which a school was connected. This school became independent in 1919. The stimulans for a veterinary service was an outbreak of Rinderpest in 1879. The way measures were taken was terrible and the population became the victim another advantageous factor was the establishment in 1888 of a Laboratory for pathological anatomy and bacteriology, which although meant for human medicine, did much for the veterinary science. The establishment of the Veterinary Laboratorium in 1907 is attributable to the endeavours of de Does. This Laboratorium developed quickly. The New Cattle disease of fowl was first diagnosticized in Bogor. The Veterinary Service was very successful from the beginning. In 1911 the Rinderpest had disappeared completely. Police measures checked many diseases, but immunisation was also a success (pasteurellosis). Preventive vaccination was started. Anthrax is still a problem. Hygienic measures (slaughterhouses, markets) were taken and the urbane centres received from 1911-12 their own veterinary service. In this way cysticercosis in Balinese slaughter cattle and trichinosis of the Batak pig could be checked. Milk control came into being. An important subject the cattle and horse improvement was taken into hand. In 1906 with own purchase of the veterinary service, important of foreign cattle for breeding and crossing was started (Ongole cattle) on Sumba, when originally no cattle were present, whereas it is now an export centre for cattle on Timor. Bali-cattle was introduced, on Flores, Madura cattle, everywhere with enormous success. Success with selection of the local cattle in Madura was obtained.

616.981.42 : 636.2

MOHAMAD ROZA.

Beberapa segi dari pemberantasan Brucellosis Bang (Aspects of elimination of Brucellosis Bang) in *Hemera Zoa* 65 (3-4) : 128-149, 1958.

A general survey is given on abortus Brucellosis Bang. In Indonesia, Brucellosis is not always followed by abortion. The author with van der Schaaf was able to isolate Brucella abortus from period of cattle and from the testis in North Sumatra, which suffered from a testis disease. The A. B. R. reaction is discussed at length and it was proved that antigen Bruhn is the best for Bogor. Figures are given of the correlation between A.B.R. and agglutination of cattle and figures on positive or negative results with serum reactions. For pooled milk, A. B. R. is very useful. As there exsist no organization in Indonesia, the ring reaction (A. B. R.) cannot be carried out effectively in Indonesia.

616.981.42

SEIT, B.

Brucellosis in man and animals with special respect to Danish laws concerning Brucellosis bovis and the eradication of the disease in *Hemera Zoa* 65 (3-4) : 150-172, 1958.

A survey of the genus Brucella, the animals affected and the three different kinds of Brucella. A description of Brucellosis in man, infection is possible with all three types. An extensive description of Brucella bovis (contagious abortion in cattle), its ways of infection in animals and the ways of transfer to non-infected herds. An extensive survey of the Danish laws and the endeavours there for eradication.

616.15.001.5

ZEEHUISEN, J. J.

Betrachtungen ueber Carotine und Porphyrine; Bau, Wirkung und mögliche Biosynthese II in *Hemera Zoa* 65 (9-10) : 262-308, 1958.

Spermin is a substance accompanying pernicious anaemia. The author tried to find out the interrelation between the impossibility to form iron porphyrin and the synthesis of spermin. In pernicious anaemia the amount of spermin in milt, bonemark and blood increases and in the blood scanthin, hyposcanthin and guanin; there might be a correlation between the haemoglobin and purin synthesis and the Purin- and Spermin-synthesis. The biosynthesis of haemin is extensively discussed (in accordance with the importance of carcinogenesis). Prerequisite are that one molecule glucuron-acid of 9 molecules is changed

in arginin after splitting and that for the spermin synthesis 2 molecules of asparagin acid are formed from the Triose, in which glucose is split in the Embden-Meyerhof way. The spermin synthesis is discussed. As there should be a connection between the synthesis of histidin and haemin, the histidin synthesis is discussed. The proteins of the nuclei are elucidated and the biosynthesis of the purin and pyrimidin. The following chapters deal with the introduction of the HCO_3 group in purin; the synthesis of HCNS in the cell; the coupling of pyrin and pyrimidin and the bearers of the genetic characters.

62 TECHNOLOGY.

621.3.091 : 621.372.8

HADINOTO, K.

Tentang rambatan dan redaman didalam pipa-gelombang (Propagation and attenuation in waveguides) in *Insinjur Indonesia* 22/23 : 60-68, 1958.

A general exposé on this subject, especially for border frequencies.

621.59 : 633.72

THIO GOAN LOO.

Improvement of quality by cold withering in *Menara Perkebunan* 28 (6) : 111-114, 1959.

Experiments on cold withering of 150 grams of tea leaves, carried out in a small refrigerator at different temperatures; silica gel is used as dryer. Cold withered leaves gave more flavoured teas, the optimal temperature being 15°C. The fermentation temperature should be not less than 25°C for leaves grown at altitudes between 2000 and 4000 ft., for low country tea this might be 27°C.

63 AGRICULTURE. FORESTRY. STOCKBREEDING.

633.1 + .5 (083.9) (922)

ASHADI DJOJOPRANOTO, R. Ng.

Masalah projek Asembagus (The Asembagus Project) in *Tehnik Pertanian* 7 (5-6) : 189-269, 1958.

The Asembagus Project situated in Besuki (E. Java) covers culture of cotton, corn, improvement of mechanisation and establishing a cooperation for planting cotton and corn. The results in the first year 1956/57 were very unsatisfactory and unprofitable both to the smallholders and to the Agricultural Extension Service. The failure is attributed to:

a. The Perta maize hybrid was bought from the smallholders and not from the seedfarms of the Extension Service, which made supervision difficult and imposible.
b. The corn was bought as ears, but was hulled on the spot, the latter should have been done at the Cotton Plant; the purity of the seed could not checked.
c. Not sufficient fertilizer was distributed.
d. Theft was easy because of insufficient storage room and transport was not supervised enough, stealing was worse, because the maize was counted in bundles in the field and in kilograms in the factory.
e. The cotton seed did not meet the requirements of purity.
f. Not sufficient instruction was given to the farmers.
g. An overall-responsible management was lacking; the local Agricultural Extension Service Branch had to add this to its own work.
h. Preliminary research in agricultural, economic and social problems were insufficient.

Factors influencing culture of cotton and corn (rainfall, etc.) were good. As cotton was interplanted between corn, to give the farmers a corn-crop, and as cotton needs another kind of soil, this represents also a minus factor. The author suggests the following improvements:

a. Seed should be obtained from official seed-farms, which should control purity.
b. No interplanting of cotton and corn.
c. Establishment of cotton seed farms and prohibited planting of other than from this seed.
d. The Asembagus Cotton Factory should not plow (with tractors) the farmer's land and receive payment of ⅓ of the maize crop, but should instead rent land; the acreage should be reduced gradually up to a minimum for propagation of selected cotton.
e. The land should be divided up in parts for cotton and for maize solely.
g. Education of the farmers to use selected cotton and maize, fertilizers, insecticides, the cost of which could be substracted from the ultimate harvest prize.
h. The Factory should take in hand instruction of the farmers.

632.951.001.5 : 595.7

IDA NJOMAN OKA.

Pertjobaan laboratorium dalam pemberantasan ulat kubis Plutella maculipennis Curt dengan Bacillus thuringiensis Berl. (Laboratorium experiments on the control of Plutella maculipennis Curt with Bacillus thuringiensis Berl.) in *Tehnik Pertanian* 6 (4) : 113-134, 1957.

Leefmans imported in 1930 Angitia fenestralis Curt, but without success and Vos imported in 1953 Angitia Cerophaga Grav. which produced satisfactory results to control Plutella, except in regions where insecticides were used, here the parasite did not establish itself. Ankersmith discovered in 1953 that Plutella had developed resistance to insecticides, which induced the author to try a bacterium. Bacillus thuringiensis (obtained from Hawaii) was grown on an Phaseolus radiatus seedlings extract, with 2 precent of glucose. Sporulation starts after 45 hours and ends after 3 to 4 days. The bacterium layer is scraped off, dried and powdered. This powder in a suspension is used for spraying. The caterpillars, which feed on the sprayed leaves die within 24 hours. Experiments were started to estimate the lowest concentration of the spray fluid, which shall caused 100 percent mortality. The lower the concentration, the slower the reaction.

637.127 (910)

WARDOJO, M. and J. J. ZEEHUISEN.

Schnelle Stickstoff bestimmung in Milch in *Hemera Zoa* 65 (9-10) : 247-261, 1958.

The applicability of two methods for quick determination of protein and nitrogen as developed by Kofrangi and Beet respectively are tested for milk analysis under Indonesian conditions. It is demonstrated, that the Kjeldahl method as modified by Beet is more reliable. During an epidemy of piroplasmosis the beginning of the recovery period could be detected from the changes in the Kofrangifactor and may consequently be used as a clinical indication. During the recovery period the fast content of the milk did not show any change and the formula developed by Marquardt for the determination of the protein content of the milk from its fat content failed too.

67 MANUFACTURES, INDUSTRIES AND CRAFTS.

674-413 (485)

LUNDQUIST, E.

Wallboard in *Rimba Indonesia* 7 (5-6) : 278-281, 1958.

A survey of the development of the wallboard industry in Sweden, starting from Populus porous wallboard to hard wallboard. The use and possibilities of both kinds and a detailed survey of the cost of establishing and running a plant and the necessary timber, water and energy.

677.151 (921)

SUMARDI, M.

Tanaman rami dan kemungkinan²nja di propinsi Sumatra Utara (Rami cultures and its possibilites in North Sumatra) in *Tehnik Pertanian* 6 (8) : 279-305, 1957.

General information on rami and its culture and a discussion of the results of a culture on an experimental farm in North Sumatra. Conclusion: from an economic standpoint culture is not warranted. To improve conditions mechanisation and cooperative farming is suggested.

7. ARTS

71 COUNTRY PLANNING

711.3 + 72 (910) (042)

LARSON, C.T.

Dua ratus tahun dalam dua puluh tahun (200 years in 20 years) in *Masalah Bangunan* 2 (3/4) : 48-54, 1958.

A lecture delivered in Djakarta in 1956. Larson spent 10 weeks in Indonesia, stressing the difficulties encountered in Indonesia in urban and rural areas and how to surmount the backward situation.

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